



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,119	01/16/2004	Narutoshi Hayashi	Q79461	5035
23373	7590	10/29/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			JUBA JR, JOHN	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/758,119

Applicant(s)

HAYASHI ET AL.

Examiner

John Juba, Jr.

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5 and 12-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/062,437.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/16, 7/2 & 8/5/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/062,437, filed on February 5, 2002.

Information Disclosure Statement

Upon consideration of Applicants' Information Disclosure Statements of January 16th, July 2nd, and August 5th of 2004, all of the references cited during the prosecution of parent application serial number 10/062,437 have been considered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 3, 5, 12, 13, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by SUMITOMO CHEMICAL (WO 96/07941 A1). SUMITOMO CHEMICAL disclose a polarizing plate comprising

a polarizing layer having a thickness of 1 – 5000 nm (Pg. 3, line 4);

a rubbed substrate (see "Preparation Methods", Pg. 25); and

a dye having a tabular molecular shape (e.g., a perylene dye (VI) pp. 21-22 or an anthraquinone dye (II), Tables 2-1 through 2-4).

The recitation of the manner in which the polarizing layer is formed is recognized as requiring the presence of a rubbed substrate surface, and associated rubbing direction, and as requiring the layer to be a dried, oriented layer of molecules having a tabular molecular shape with the tabular molecular shape oriented "roughly perpendicular" to the rubbing direction. That is, the recitation of the layer as having been coated as "an aqueous solution" is believed to be a process limitation that does not impart any recognizable distinguishing characteristic to the final product:

"Process limitations cannot impart patentability to product claim where product is not patentably distinguished over prior art." *In re Dike*, 157 USPQ 581 (CCPA 1968).

It is well-settled that the "[p]resence of process limitations in product claims, which product does not otherwise patentably distinguish over prior art, cannot impart patentability to that product." *In re Stephens*, 345 F.2d 1020 (CCPA 1965), 145 USPQ 565, citing *Dilnot*. In any event, SUMITOMO CHEMICAL disclose solution coating and drying on the rubbed substrate (see "Preparation Methods", Pg. 25), and disclose that some of the solutions may be aqueous.

Thus, SUMITOMO CHEMICAL expressly disclose every positively recited structural limitation, and are silent only as to the orientation of the *tabular* molecules. Nonetheless, since SUMITOMO CHEMICAL disclose the same type of dyes and alignment method, the examiner has reasonable belief that the tabular molecular shape

Art Unit: 2872

inherently will be oriented “roughly perpendicular” to the rubbing direction, as recited. If such is not the case, then Applicant should demonstrate that this feature is not inherent. *In re Swinehart*, 169 USPQ 226 (CCPA 1971). That is, the perylenes and anthraquinones of SUMITOMO CHEMICAL may be pendant from the PTFE chain at any of a plurality of sites (at either end of their form), and still be regarded as being oriented “roughly perpendicular” to the PTFE chain (and thus to the rubbing direction).

With regard to claim 5, SUMITOMO CHEMICAL disclose that the layer can be on another alignment layer, the other alignment layer comprising polyester (Pg. 28, lines 24 – 28).

Response to Amendment

Applicants’ remarks concerning the rejection of claims 1 – 3, 5 and 12 – 14 under 35 U.S.C. §102(b) as being anticipated by SUMITOMO CHEMICAL (WO 96,07941A) have been fully considered, but are not found persuasive. The examiner concurs that the PTFE chains of SUMITOMO CHEMICAL are oriented parallel to the rubbing direction. Applicants correctly note that Examples 1 – 3 produce polarizers having an absorption axis parallel to the rubbing direction. In each of the examples, the azo dye molecules are aligned parallel to these chains and to the rubbing direction, since these dyes have a rod-like molecular shape exhibiting absorption along their long axis (generally along the N=N bond, the absorption inducing a *cis-trans* photoisomerization about the bond). With this alignment, the absorption axis of the chromophore is parallel to the rubbing direction so that light polarized parallel to the absorption axis and rubbing direction is absorbed. However, this teaching in the reference would not lead one to

Art Unit: 2872

conclude that molecules having a tabular shape would be oriented in the same fashion. Even if it were the case that the tabular dye embodiments produced polarizers having an absorption axis parallel to the rubbing direction, and there is *no evidence* that this is the case, the mere fact of such absorption would only support a conclusion regarding alignment of the *absorption axes*. There is nothing on the record to demonstrate SUMITOMO CHEMICAL do not disclose an embodiment in which the tabular molecule is "oriented roughly perpendicular to the rubbing direction". On the contrary, Ignatov, et al (U.S. Patent number 6,563,640) demonstrate that tabular dye forms are known to organize into linear ordered ensembles with their molecular planes mutually parallel but perpendicular to the ensemble axis. Although the *ensembles* align themselves parallel to the orientation axis of the substrate, the molecular planes, *i.e., the molecules* are mainly oriented perpendicular to the orientation axis (Col. 8, lines 25+). In the case of a rubbed substrate, the orientation axis is the rubbing direction. Thus, the extrinsic evidence on the record makes it clear that at least some of the tabular dye embodiments of SUMITOMO CHEMICAL have their molecules roughly perpendicular to the rubbing direction.

Since the rejection is one of anticipation, the question of unexpected results is generally not relevant. It is believed that the claims recite a feature inherent to the combinations disclosed by SUMITOMO CHEMICAL. Further, it now appears that the recited orientation is not unexpected, as argued by Applicants. It would of course suffice to demonstrate that none of the dyes *always* will be oriented as recited. On the other hand, of the species disclosed by SUMITOMO CHEMICAL, the examiner believes

Art Unit: 2872

that at least one *inherently* manifests the recited orientation, so as to anticipate the claims.

From the discussion above, it should be apparent that the very meaning of the expression "oriented roughly perpendicular to the rubbing direction" is subject to broad interpretation. Where a dye molecule has a long axis, "roughly perpendicular" may be inferred as meaning that the long axis crosses the rubbing direction at "roughly" a right angle. However, in the case of more symmetrical tabular forms, such as in the case of phthalocyanines, this expression may mean only that the plane of the tabular molecule crosses the rubbing direction at "roughly" a right angle. Even if a tabular form does have an identifiable long axis and short axis, if the plane of the tabular form is perpendicular to the rubbing direction, both the long and the short axes cross the rubbing direction at a right angle (albeit in different planes).

Conclusion

This is a continuation application of applicant's earlier Application No. 10/062,437. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2872


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Juba whose telephone number is (571) 272-2314. The examiner can normally be reached on Mon.-Fri. 9 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Drew Dunn whose number is (571) 272-2312 and who can be reached on Mon.- Thu., 9 - 5.

The centralized fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for *all* communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2800.


JOHN JUBA, JR.
PRIMARY EXAMINER
Art Unit 2872

October 27, 2004